

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present : Adv. A J Wilson, Member
Sri. B. Pradeep, Member

OP No. 11/2023

In the matter of : Petition for Approval of Capital Expenditure for the years of 2019-20 and 2020-21

Petitioner : M/s. Cochin Port Authority

Represented by : Sri V.Thuraipandian, CME, CoPA
Sri S.K.Sahu, FA & CAO,
Smt. Surya Madhu, Sr.AO, CoPA
Smt. Jayalakshmi, Assistant Engineer, CoPA

Respondent : M/s Kerala State Electricity Board Limited

Represented by : Sri. M.P. Rajan, Deputy Chief Engineer, TRAC, KSEB Ltd
Sri. Rajesh R, Assistant Executive Engineer, KSEB Ltd
Smt. Biji Christudas, Assistant Engineer, KSEB Ltd

Date of Hearing : 24.02.2023 at the Conference Hall
Office of Cochin Port Authority, Kochi

Order Dated 01.01.2024

1. M/s Cochin Port Authority (CoPA) formally known as Cochin Port Trust (hereinafter referred to as CoPA or the licensee or the petitioner) is a deemed distribution licensee under the proviso to Section 14 of Electricity Act 2003. The Commission vide Order dated 18.01.2010 in exercise of the powers conferred on it by Section 14 of Electricity Act 2003, granted permission to the licensee to extend its power distribution area to the Special Economic Zones at Vallarpadam and Puthuvypin in Ernakulam District, Kerala State. The Distribution Business Unit of CoPA performs the distribution of electricity across the entire W/Island area, Vallarpadam and Puthuvypin areas. The licensee is having 2 power injection points, one at Willington Island area under 110kV system with contract demand of 6500 kVA and another at Vallarpadam SEZ area under 11 kV with contract demand of 3000 kVA.
2. The Commission while Truing Up the accounts for the year 2019-20, had deferred the approval of the capital investment of Rs.103.29 lakh from CoPA's own funds and directed to submit the detailed proposal before the Commission

in accordance with KSERC (Terms and Conditions for Determination of Tariff) Regulations 2018. The Commission vide Order dated 29.03.2022 on truing up the accounts for the year 2020-21 further directed the licensee to submit the petition for approval of Capital expenditure of Rs.103.29 lakh for 2019-20 and Rs.112.30 lakh for 2020-21 within three months from the date of the Order. Accordingly, CoPA has vide letter dated 27.06.2022 submitted the petition for approval of Capital expenditure from CoPA's own fund for the financial years 2019-20, 2020-21 and 2021-22. In addition to the above, CoPA had also submitted the capital investment plan for the year 2022-23 for prior approval of the Commission in compliance with Regulation 23 of KSERC (Terms and Conditions for Determination of Tariff) Regulation 2021. The Commission admitted the petition as **OP No. 11/2023**

Hearing on the Petition

3. The hearing on the petition was conducted on 24.02.2023. Smt. Rajashree. K Dabke, Sr.Dy CAO, Smt. Surya Madhu, Sr.AO, Smt. Jayalakshmi, Assistant Engineer, CoPA and other officers represented the petitioner. Sri. Rajan, Deputy Chief Engineer, TRAC, Sri. Rajesh R, Assistant Executive Engineer and Smt. Biji Christudas, Assistant Engineer represented KSEB Ltd. Smt. Jayalakshmi, Assistant Engineer, CoPA briefed the details of the petition for approval of capital expenditure for the years 2019-20, 2020-21 and 2022-23 and responded to the queries of the Commission. The main points on the petition for approval of capital expenditure for the years 2019-20, 2020-21 and 2022-23 are briefed below.
4. The major Capital expenditure incurred for the years 2019-20 and 2020-21 are with regard to Providing Shore Power to UTL & near berth, Supply & Erection of 100 KWP Solar Panel, Strengthening Distribution Network (Standardization) and Replacing the old HT cable from E/Wharf. The total amount incurred for the years 2019-20 and 2020-21 is Rs. 212.99 lakh. With regard to the expenditure proposal of 2022-23, the expenses are for providing Smart Metering / Pre paid metering infrastructure for Consumers in Urban area under IPDS scheme, Replacement of old/ damaged panels with new 11KV RMU & LT panels at Q9 Substation and SITC of shore supply Points at Q8/Q9 Berth at Willingdon Island, Supply, Installation, Testing & commissioning of Electrical Infrastructure like 500 A MV Panel, one number 500 KVA transformer etc at North End Substation (done along with North End Admin Building (NAB) Distribution infrastructure revamping), Replacement of old 11KV VCB Panels with new 11KV SF6 RMU panel at Mattancherry Halt Substation of Cochin Port Trust, Smart metering Works (RDSS) and Loss reduction works (RDSS) amounting to Rs.254.80 lakh.

5. The Commission vide Daily Order dated 28.02.2023 viewed that the licensee has included capital expenditure plan for the year 2022-23 both in the petition for approval of ARR&ERC and in CAPEX petition. The year 2022-23 being part of the new MYT control period, Commission viewed that the capital expenditure for 2022-23 shall be treated as part of the petition for approval of ARR & ERC for the control period. With regard to the capital expenditure for the years 2019-20 and 2020-21, the Commission directed the licensee to submit the details including DPRs, cost benefit analysis and other documents, if any, to substantiate the necessity of the said investments.
6. In compliance to the direction of the Commission, the licensee submitted the revised petition vide letter dated 24.03.2023. The revised petition was for approval of the capital investments for the years 2019-20 and 2020-21 only. No capital investment was incurred for the year 2021-22. The year wise capital expenditure incurred for the period 2019-20 and 2020-21 as per the petition is given below.

Table 1
Year wise details of capital expenditure as per revised petition

Year	Description of Work	Amount (Rs. lakh)			Date of Commissioning
		Own Fund	Grant Fund	Total	
2019-20	Supply & Erection of 100 KWP Solar Panel	58.73	0.00	58.73	15.10.2019
	Providing Shore Power to UTL & near berth	114.80	0.00	114.80	29.02.2020
	Sub Total	173.53	0.00	173.53	
2020-21	Strengthening Distribution Network (Standardization)	98.92	148.39	247.31	31.03.2019
	Providing Smart Metering / Pre paid metering infrastructure for Consumers in Urban area at COPT under IPDS	62.95	94.42	157.37	31.07.2020
	Replacing the old HT cable from E/Wharf	6.17	0.00	6.17	13.02.2021
	Sub Total	168.04	242.81	410.85	
Total Capital Expenditure		341.57	242.81	584.38	

7. The Capital asset addition for the year 2019-20 has been made using the licensee's own fund. Investments were made for providing Shore Power Supply facilities at berth to the vessels calling at CoPA for reducing carbon emissions at Port area as per Ministry of Ports, Shipping and Waterways (MoPSW) guidelines to transform to Green Ports. Installation of 100 kWp Solar plant was also made towards solarisation of Port and towards RPO obligation. Capital asset addition for the year 2020-21 has been made under Integrated Power

Development Scheme (IPDS) of Ministry of Power, Govt. of India for Strengthening of Sub-transmission and Distribution Network and for providing SMART metering arrangement with 60% grant from Ministry.

Analysis and decision of the Commission

8. The Commission has carefully considered the licensee's revised petition for approval of the capital investments for the years 2019-20 and 2020-21, the views presented by the licensee during hearing and the counter statements furnished by the KSEB Ltd, and the analysis and decisions of the Commission on the petition are detailed below.
9. The Commission while issuing the Order on ARR&ERC for the years 2018-19 to 2021-22 dated 30-10-2019 had clearly stated that the proposal of capital investment from own funds is deferred due to non-availability of proper documents to substantiate the investment. The relevant portion of the ARR&ERC Order is quoted below.

“With regard to the capital investment from CoPTs own funds, the Commission has decided to defer the proposal as the Commission is not in a position to accord in principle sanction for the proposed capital investment without proper documents to substantiate the investment. The licensee is directed to submit the detailed proposal before the Commission at the earliest. The asset addition may be considered after formal approval during the process of truing up of accounts.....”

10. The licensee in the respective petitions for truing up of accounts for the year 2019-20 and 2020-21 had not submitted proper documents to justify and substantiate the capital expenditure. Thus, the Commission has taken a considered stand as in the Order on ARR&ERC (para 58).The relevant portion is given below.

“58. Regulations 22 to 27 of the Tariff Regulations, 2018 provide for the procedure to be followed for addition of assets and the claiming of depreciation. As per Regulation 22 (3), the capital cost approved by the Commission after prudence check shall form the basis for determination of tariff. Unless the approval is obtained, it is not eligible to be part of GFA.”

11. Due to the above reasons, the Commission had not considered the claims for the capital additions made during the years 2019-20 and 2020-21 and had not allowed depreciation and other finance charges for the assets. Now the licensee has filed the petition for approval of the capital investments for the years 2019-20 and 2020-21 separately which is discussed in the following paragraphs.

Assets Additions for the year 2019-20

A. Providing Shore power to UTL & near berth – Rs.114.80 lakh

12. The licensee in the petition has stated that, the Ministry of Shipping has communicated to all the Ports the decision that the major ports shall take necessary measures as long term targets to become a “Green Port” by introducing Cold Ironing facility (shore Power Supply) as a part of Green Port Initiative under Environmental Monitoring and Management Plan (EMMP). Accordingly, the said project was included under Swatchhata Action Plan (SAP) of Ministry of Shipping in 2017 with a view to eliminating emission of toxic fumes from the Diesel Generators of vessels at berth and reducing subsequent atmospheric pollution and noise level etc. The licensee has stated that Cochin Port is bound to do the Cold Ironing works as a mandatory requirement.
13. With regard to the benefits of the investment, the licensee has stated the following;
- Shore side electricity supply
 - Reduces air pollution in the port and surrounding communities
 - Facilitates maintenance of the ship's engines and generators, and reduces noise.
14. The licensee in the petition has submitted a cost benefit analysis wherein it is stated that the benefit shall be Rs.23.22 lakh per year as shown below;

Table 2
Cost benefit from Providing Shore power to UTL & near berth

	Particulars	Quantity	Remarks
1	Average calls per year	70	at least one ship to be shore powered at a time
2	Average power per vessel (KW)	500	
3	Average time at berth / visit	40	Hours
4	Vessel fuel consumption	210 Gm/Kwh	
5	Cost of diesel	Rs. 94.00	As on 06/03/2023
6	Average electricity charge	11.70	Rs/unit As per existing tariff
7	Power supply requirement per year in Kwh (1x2x3)	840000.00	Considering UF as 60%
8	Total units generated from 1 litre of HSD	4.76 units	
9	Total HSD requirement for running the vessels at berth per year in litres (7/8)	176470.59	
10	Total fuel cost for 1 year	Rs.1,21,50,000.00	As per existing rate of HSD
11	Total electricity charge if shore power is given to the vessel (7x6)	Rs.98,28,000.00	As per existing retail supply tariff
12	Monetary Benefit by using shore power	Rs.23,22,000.00	

15. The licensee has stated that the competent authority of CoPA had approved an estimate cost of Rs.1.14 crore to be met from internal resources. It is seen that the global best practice of the use of Alternate Maritime Power (AMP) for vessels in port is increasing. The advantages of AMP are the following;
- (a) to Eliminate emission of toxic fumes from DG,
 - (b) to reduce atmospheric pollution,
 - (c) to reduce noise level, and
 - (d) to allow maintenance of DGs when the vessel is in harbour.
16. The AMP is a system which allows ships to turn off their engines when in port and plug into shore side electricity supply, reducing air pollution in the port and surrounding communities. All emissions from the vessel including NOx, Sox, CO2 are eliminated from the port area when the engines are secured and ship receives power from shore side. It is pertinent to note that the design voltage and frequency differ from vessel to vessel, and there is no standardization across vessels. The voltage and frequency provided by the port has to match the vessel's design voltage and frequency for the vessel to receive shore power.
17. The Commission has carefully considered the claim of the petitioner and observed that, CoPA is purchasing electricity from KSEB Ltd a major distribution licensee and distributes to the consumers in Port area, under its jurisdiction in Willingdon Island, Vallarpadam and Puthuvypin area. The responsibility of CoPA is to provide dependable, cost-effective Port services through modern and efficient infrastructure coupled with high quality, friendly services to the customers. The development of infrastructure to receive electric power from the distribution licensee for using electric energy in ships at appropriate voltage and frequency is an essential activity of the port authority. The same is distinct and separate from the functions of a distribution licensee even though both roles are being carried out by CoPA. Therefore, the Capital expenditure related to Shore power to UTL & near berth has to be treated as the capital asset of the port developer M/s. CoPA, and it cannot be treated as part of its electricity distribution business. ***Hence the Commission rejects the amount of Rs.114.80 lakh claimed for providing shore power to UTL and near berth. At the same time, it is clarified that CoPA is free to further develop AMP as part of its core business activity of port management.***

B. Supply and Erection of 100kWP Solar Power Plant

18. The licensee in the petition has stated that as a part of Green Port Initiative under Environmental Monitoring and Management Plan (EMMP) this project was included under Swatchhata Action Plan (SAP) of Ministry of Shipping

in 2017 with a view to producing clean power without any atmospheric pollution and the installation of Solar power plant is mandatory as per “Kerala State Electricity Regulatory Commission (Renewable Energy) Regulation 2015”.

19. The project involves the supply and erection of a 100 kWp ground-mounted solar power plant which includes the design, supply, installation, testing, and commissioning of the entire solar power plant system. The plant will generate renewable energy through the installation of photovoltaic panels, inverters, mounting structures, and other necessary components. The scope of the work is detailed below;
 - a) The design and engineering the solar power plant system, including layout, module mounting structure, electrical design, and system sizing.
 - b) Supply of all equipment, materials, and components required for the solar power plant system, including photovoltaic panels, inverters, mounting structures, cables, and other necessary components.
 - c) Clearing and grading the land, laying the foundation, and installing the mounting structures.
 - d) Solar Panel Installation which includes mounting the photovoltaic modules on the mounting structures and connecting them with the cables.
 - e) Electrical works that includes installation of inverters, switchgear, and cabling.
 - f) Testing and commissioning of the solar power plant system for its performance and reliability.
20. The licensee in the petition has stated that the competent authority of CoPA has approved an estimate of Rs.77.69 lakh to be met from internal resources. As per the details submitted in the petition, the amount sought for approval by the licensee for the 100kWp Solar Power Plant is Rs.58.73 lakh. The Commission notes that there is difference in the claim sought for approval and the cost shown on the attachments submitted to validate the expenditure. As per the bills submitted the cost incurred is only Rs.57.92 lakh (Annexure B5).
21. The licensee has stated two major benefits which is clean energy from solar plant and that the Renewable energy obligation can be met as specified in the regulation issued by the Commission. The licensee has also submitted the tender details and other supporting documents to the Commission through the petition and additional submissions. **Considering this, the Commission hereby approves Rs.57.92 lakh (excluding GST) as cost for supply and erection of the 100 kWp ground-mounted solar power plant. The licensee shall book the entire generation from the plant as own generation of the distribution licensee from the date of commercial operation of the plant.**

Assets Additions for the year 2020-21

C. Strengthening Distribution Network (Standardization)

22. The Ministry of Power, Government of India had notified "Integrated Power Development Scheme" (IPDS) on 3rd December 2014 for strengthening of sub-transmission and distribution networks in the urban areas with 60% GoI Grant to all the utilities and DISCOMs. Accordingly, the licensee for improving the quality and reliability of power supply to the consumers through a financially sustainable and operationally efficient distribution system, has incurred a total amount of Rs.247.31 lakh which includes Rs.148.39 lakh met from Grant and Rs.98.92 lakh from own fund for strengthening and standardization of distribution network.
23. The licensee has stated that the Project was envisaged in such a way to reduce overall AT&C loss of the CoPA's distribution network. The licensee has further stated that the demand of Electrical Power at W/Island was increasing due to increase in customer base and consumption pattern which required strengthening and augmentation of distribution network at our License area. Therefore development of power infrastructure was considered necessary to ensure reliable and quality power supply to the consumers. The benefits mentioned are decrease in power outage time, safety of the equipment and personnel, decrease in maintenance hours and consumer satisfaction.
24. The cost estimated for the standardization work was Rs.305.64 lakh with a funding pattern of 60% grant from Ministry of Power under IPDS and 40% Own Fund. The work was executed by M/s. Helsa Electricals Pvt. Ltd and the standardization work has been completed at a total amount of Rs.247.31 lakh. The licensee in the petition has submitted the detailed split up of the expenses incurred for the work.
25. As per the Regulation 25 of the KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2018, the assets created out of grant from the State/Central Government is not eligible for claiming depreciation and return on equity. Since the investment is made with Government grant, the licensee is not eligible to claim 'depreciation', 'return on equity' and 'interest on loan' for this investment. ***Considering this and examining the details submitted by the licensee, the Commission hereby approves the amount of Rs.98.92 lakh incurred from Own Fund. The licensee is eligible to claim 'depreciation', 'return on NFA' and 'interest on normative loan' for this investment.***

D. Providing Smart Metering / Pre paid metering infrastructure for Consumers in Urban area at CoPA under IPDS

26. Ministry of Power, Government of India notified "Integrated Power Development Scheme" (IPDS) on 3rd December 2014 for Strengthening of sub-transmission and distribution networks in the urban areas with 60% GoI Grant to all the utilities and DISCOMs. The licensee has initiated for development of infrastructure works including consumer meters. The project aimed to install smart meters for 1500 consumers of Cochin Port Authority with GPRS/RF communication technology replacing traditional meters. The smart meters are connected to the Head End System with GPRS communication technology. The Ministry has directed to replace consumer meter with smart meters. The licensee has stated that the cost incurred for the implementation of Smart Metering / Pre paid metering is Rs.157.37 lakh
27. The licensee has pointed out the following benefits
- a) Real time monitoring of Power flow
 - b) Accurate reading for power supply
 - c) Monitoring of power consumption by consumers through Mobile
 - d) No manpower for Meter reading
 - e) Automatic Billing and generation of Bills saving money and time
 - f) Remote disconnection of service for defaulters/during maintenance.
28. As per the details submitted in the petition, the total cost of Rs.157.37 lakh includes Rs.94.42 lakh as Grant from Government of India and Rs.62.95 lakh of own fund. As mentioned in previous para, as per the Regulation 25 of the KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2018, the assets created out of grant from the State/Central Government is not eligible for claiming depreciation and return on equity. Since the investment is made with Government grant, the licensee is not eligible to claim 'depreciation', 'return on equity' and 'interest on loan' for this investment. **Considering this and examining the details submitted by the licensee, the Commission hereby approves the amount of Rs.62.95 lakh incurred from Own Fund. The licensee is eligible to claim 'depreciation', 'return on NFA' and 'interest on normative loan' for this investment. The licensee is directed to submit audit reports for each DTR area, for each feeder and for the license area based on energy readings from the smart meter, along with true up petition for the financial years from 2022-23 onwards. The licensee shall also submit the average daily demand pattern of each category of consumers in different seasons of the year.**

E. Replacing the old HT cable from E. Wharf

29. The licensee has stated that the HT cable from Ernakulam Wharf substation to Q5 substation was laid about 30 years ago and is in very bad condition due to ageing. The cable has failed a number of times recently and there are 6 to 7 joints on this cable. Hence the reliability of the cable is very low. For ensuring continuity of supply in the Q5 substation, the cable was replaced with a new one. The estimated cost was Rs.6.64 lakh which was proposed to be incurred from own fund. Now the licensee has incurred a total cost of Rs.6.17 lakh for replacing the old HT cable from E/Wharf.
30. Accordingly, based on the documents submitted to substantiate the expenses, emergency works done for uninterrupted power supply and other supporting documents to justify the capital expenditure, ***the Commission hereby approves Rs.6.64 lakh for inclusion in the asset base, and allows the licensee the eligible depreciation and interest on normative loan for the approved assets.***
31. ***Based on the preceding paragraphs, the Commission hereby approves the following assets addition out of own fund for the year 2019-20 and 2020-21***

Table 3
Approved Capital Expenditure for the years 2019-20 and 2020-21

Year	Description of Work	Claimed Amount (Rs. lakh)	Approved Amount (Rs. lakh)
		Own Fund	Own Fund
2019-20	Supply & Erection of 100 KWP Solar Panel	58.73	58.73
	Providing Shore Power to UTL & near berth	114.80	-
	Sub Total	173.53	58.73
2020-21	Strengthening Distribution Network (Standardization)	98.92	98.92
	Providing Smart Metering / Pre paid metering infrastructure for Consumers in Urban area at COPT under IPDS	62.95	62.95
	Replacing the old HT cable from E/Wharf	6.17	6.17
	Sub Total	168.04	168.04
Total Capital Expenditure		341.57	226.77

Orders of the Commission

32. The Commission, after examining the petition filed by the licensee for the approval of Capital Expenditure incurred for the period 2019-20 and 2020-21 in line with the provisions of the Electricity Act, 2003, KSERC (Terms and

Conditions for Determination of Tariff) Regulations, 2018 and other relevant Rules and Regulations in force, hereby issues the following Orders and directives for compliance by the licensee.

- a. Approve the Capital Investment made by M/s CoPA for the financial years 2019-20 and 2020-21, for electricity distribution business as detailed in the paragraph 31 above.
 - b. Approve grant portion of the capital expenditure incurred for strengthening distribution network and Providing Smart Metering / Pre paid metering infrastructure for Consumers in Urban area at CoPA under IPDS, subject to the condition that, 'depreciation, return on equity and interest on loan' shall not claimed for this investment.
33. With the above, the petition disposed of, Ordered accordingly.

Sd/-
Adv. A. J. Wilson
Member

Sd/-
Sri. B. Pradeep
Member

Approved for issue
Sd/-
C.R.Satheesh Chandran
Secretary